



THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

QUIGLEY *et al.*

Appl. No.: 09/710,238

Filed: November 9, 2000

For: **Pre-Equalization Technique for
Upstream Communication Between
Cable Modem and Headend**

Confirmation No.: 4904

Art Unit: 2667

Examiner: Boakye, A.

Atty. Docket: 1875.132000G

Fourth Supplemental Information Disclosure Statement

Mail Stop RCE

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Listed on accompanying IDS Forms are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

Applicants have listed publication dates on the attached IDS Forms based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent

application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicants have checked the appropriate boxes below.

- ☐ 1. Statement under 37 C.F.R. 1.704(d). Each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in 37 C.F.R. § 1.56(c) more than thirty days prior to the filing of this information disclosure statement.
- ☒ 2. Filing under 37 C.F.R. § 1.97(b). This Information Disclosure Statement is being filed within three months of the date of filing of a national application other than a continued prosecution application (CPA), OR within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application, OR before the mailing date of a first Office Action on the merits OR before the mailing of a first Office Action after the filing of a request for continued examination under 37 C.F.R. § 1.114. No statement or fee is required.
- ☐ 3. Filing under 37 C.F.R. § 1.97(c). This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection, or Notice of Allowance, or an action that otherwise closes prosecution in the application.

- ☐ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure

Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).

☐ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).

☐ c. Attached is our PTO-2038 Credit Card Payment Form in the amount of \$_____ in payment of the fee under 37 C.F.R. § 1.17(p).

☐ 4. Filing under 37 C.F.R. § 1.97(d) This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. Enclosed find our PTO-2038 Credit Card Payment Form in the amount of \$_____ in payment of the fee under 37 C.F.R. § 1.17(p); in addition:

☐ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign

patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).

- ☐ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- ☐ 5. The document(s) was/were cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the foreign office is provided in satisfaction of the requirement for a concise explanation of relevance. 1138 OG 37, 38.
- ☐ 6. A concise explanation of the relevance of the non-English language document(s) appears below in accordance with 37 C.F.R. § 1.98(a)(3).
- ☒ 7. Copies of documents FP1 and NPL1 - NPL5 are submitted. However, in accordance with 37 C.F.R. § 1.98(a)(2), no copies of U.S. patents and patent application publications cited on the attached IDS Forms are submitted.
- ☐ 8. Copies of the documents were cited by or submitted to the Office in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No. _____, filed

_____, which is relied upon for an earlier filing date under 35 U.S.C.

§ 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

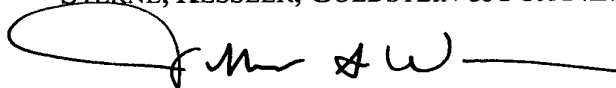
- ☐ 9. It is expected that the examiner will review the prosecution and cited art in the parent application no(s). _____ in accordance with MPEP 2001.06(b), and indicate in the next communication from the office that the art cited in the earlier prosecution history has been reviewed in connection with the present application.

It is respectfully requested that the Examiner initial and return a copy of the enclosed IDS Forms, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



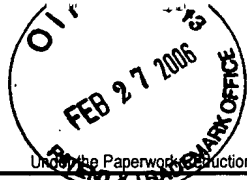
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Substitute for form 1449/PTO

**FOURTH SUPPLEMENTAL
INFORMATION DISCLOSURE
STATEMENT BY APPLICANTS**

(Use as many sheets as necessary)

Complete if Known

Application Number	09/710,238
Filing Date	November 9, 2000
First Named Inventor	Thomas J. QUIGLEY
Art Unit	2667
Examiner Name	Boakye, A.
Attorney Docket Number	1875.132000G

Sheet 1 of 2

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	US1	3,839,678	10-01-1974	Bell	
	US2	5,206,864	04-27-1993	McConnell	
	US3	5,276,706	01-04-1994	Critchlow	
	US4	5,491,725	02-13-1996	White	
	US5	5,533,004	07-02-1996	Jasper et al.	
	US6	5,553,064	09-03-1996	Paff et al.	
	US7	5,572,511	11-05-1996	Ouyang et al.	
	US8	5,600,651	02-04-1997	Molle	
	US9	5,612,975	03-18-1997	Becker et al.	
	US10	5,666,358	09-09-1997	Paratore et al.	
	US11	5,703,539	12-30-1997	Gillig et al.	
	US12	5,859,671	01-12-1999	Kim	
	US13	5,903,231	05-11-1999	Emelko	
	US14	5,909,564	06-01-1999	Alexander et al.	
	US15	5,963,557	10-05-1999	Eng	
	US16	5,995,916	11-30-1999	Nixon et al.	
	US17	6,011,970	01-04-2000	McCarthy	
	US18	6,028,860	02-22-2000	Laubach et al.	
	US19	6,055,242	04-25-2000	Doshi et al.	
	US20	6,208,656 B1	03-27-2001	Hrastar et al.	

FOREIGN PATENT DOCUMENTS

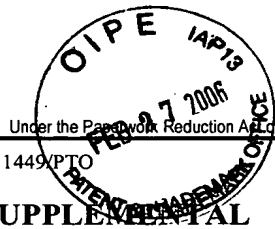
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
	FP1	WO 98/47236 A1	10-22-1998	Eng		
	FP2					
	FP3					
	FP4					
	FP5					
	FP6					
	FP7					
	FP8					
	FP9					

Examiner
SignatureDate
Considered

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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANTS (Use as many sheets as necessary)				Complete if Known	
				Application Number	09/710,238
				Filing Date	November 9, 2000
				First Named Inventor	Thomas J. QUIGLEY
				Art Unit	2667
				Examiner Name	Boakye, A.
Sheet	2	of	2	Attorney Docket Number	1875.132000G

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		Number-Kind Code ² (If Known)			
	US21	6,215,792 B1	04-10-2001	Abi-Nassif	
	US22	6,246,713 B1	06-12-2001	Mattisson	
	US23	6,438,174 B1	08-20-2002	Isaksson et al.	
	US24	6,459,703 B1	10-01-2002	Grimwood et al.	
	US25	6,480,477 B1	11-12-2002	Treadaway et al.	
	US26	6,529,520 B1	03-04-2003	Lee et al.	
	US27	6,546,017 B1	04-08-2003	Khaunte	
	US28	6,563,829 B1	05-13-2003	Lyles et al.	
	US29	6,614,799 B1	09-02-2003	Gummalla et al.	
	US30	6,650,624 B1	11-18-2003	Quigley et al.	
	US31	6,704,932 B1	03-09-2004	Matsunaga et al.	
	US32	6,785,252 B1	08-31-2004	Zimmerman et al.	
	US33	6,961,314 B1	11-01-2005	Quigley et al.	
	US34	6,965,616 B1	11-15-2005	Quigley et al.	
	US35	2001/0055319 A1	12-27-2001	Quigley et al.	
	US36				
	US37				
	US38				
	US39				
	US40				

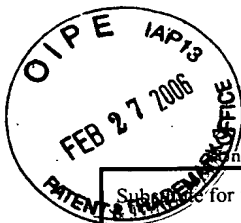
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		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
	FP10					
	FP11					
	FP12					
	FP13					
	FP14					
	FP15					
	FP16					
	FP17					
	FP18					

Examiner Signature		Date Considered	
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		Filing Date	November 9, 2000
		First Named Inventor	Thomas J. QUIGLEY
		Art Unit	2667
		Examiner Name	Boakye, A.
Sheet 1	1 of 1	Attorney Docket Number	1875.132000G

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume issue number(s), publisher, city and/or country where published	T ²
	NPL1	Quigley, T.J. <i>et al.</i> , U.S. Patent Appl. No. 09/714,713, filed November 16, 2000, entitled "Data Packet Fragmentation in a Cable Modem System".	
	NPL2	Quigley, T.J. <i>et al.</i> , U.S. Patent Appl. No. 11/292,098, filed December 2, 2005, entitled "Data Packet Fragmentation in a Cable Modem System".	
	NPL3	Erup, L. <i>et al.</i> , "Interpolation in Digital Modems - Part II: Implementation and Performance," <i>IEEE Transactions on Communications</i> , Vol. 41, No. 6, pp. 998-1008 (June 1993).	
	NPL4	Gardner, F.M., "Interpolation in Digital Modems - Part I: Fundamentals," <i>IEEE Transactions on Communications</i> , Vol. 41, No. 3, pp. 501-507 (March 1993).	
	NPL5	Declaration of Lisa V. Denney, dated March 22, 2004, (7 pages), with Exhibits 1-4.	
	NPL6		
	NPL7		
	NPL8		
	NPL9		
	NPL10		

Examiner Signature	Date Considered
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¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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